Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

Conditional Major / Synthetic Minor Preliminary No. F-03-029
BLUEGRASS STATION DIVISION, 5751 BRIAR HILL ROAD, LEXINGTON, KY 40516-9721
July 21, 2004
BRIAN BALLARD, REVIEWER
Plant I.D. # 021-067-00032
Application Log # 55963

SOURCE DESCRIPTION:
Bluegrass Station Division, located at 5751 Briar Hill Road, Lexington, Kentucky is a facility of the Kentucky Department of Military Affairs. Bluegrass Station Division maintains existing painting facilities consisting of the following operations – paint preparations, depaint operations, and paint application. Other emission units at Bluegrass Station Division include natural gas fired boilers, underground gasoline storage tank, and miscellaneous industrial processes. Construction is proposed for an additional painting operations facility for the resurfacing of military helicopters.

CHANGES TO THE DRAFT PERMIT:

Additional information was submitted following the issuance of the Draft permit (F-03-029) that warranted changes to Section B, Emission Point 1 of the permit. The additional information specified the design of the VOC control system for the Helicopter Paint Booth.

The Draft permit contained toxic emission limits for hexamethylene diisocyanate, chromium and chromium VI. These emission limits were determined using the SCREEN 3 model. Bluegrass Station Division modeled the source using the ISCST 3 model to obtain more specific information on the concentration of toxics emitted from the source. The result of the ISCST 3 modeling showed that the need for a limit on hexamethylene diisocyante was unnecessary. Also, the need for tracking chromium VI in the waste dust from depaint operations was determined to be unnecessary. Bluegrass Station Division submitted a letter dated March 23, 2004 where it is stated that they (Bluegrass Station Division) conducted laboratory tests to determine the concentration of chromium VI in the waste dust. The findings of these tests were that about 0.00016 pounds of chromium VI would be emitted per year. Since it was determined by DAQ through use of ISCST 3 modeling that emissions of up to 6.0 pounds of chromium VI per year would not pose a threat to public health, the provision for tracking chromium VI in the waste dust was removed from the permit. The source is still required to track HAPs that are present in the waste dust.

Due to the changes in the permit, the Division will redraft and advertise the permit as F-03-029.

Emission Point 1

The Helicopter Resurfacing Operation will consist of a new media blasting booth and a new paint booth housed within one main structure. The painting operations facility will be for surface coating of military helicopters and their associated parts. The uncontrolled potential emissions from the painting operations will be significant. However, the painting facility emissions will be controlled using a Permanent Total Enclosure (PTE) with 3-stage filtration for particulates and activated carbon for capture of VOCs.

The process of resurfacing a helicopter will begin with the cleaning of the helicopter surface in the media blast booth. Plastic bead will be the media used to clean the helicopter. This process will generate used media and waste dust. The helicopter will then proceed to the paint booth. The paint booth will be equipped with two paint guns, one a High Volume Low Pressure (HVLP) spray gun and the other an Electrostatic spray gun. The 3-stage filtration system is the A.J. Dralle XFP-6000 Aerospace Paint Overspray Collection System. This system will include a self contained unit that continuously monitors air filter pressure drop on a stage – by – stage basis. The VOC control system is an activated carbon system.

EXISTING PAINT AND DEPAINT OPERATIONS

Emission Point 2

Emission Point 2 consists of two small paint booths with three baking ovens. This painting operation is for the purpose of surface coating miscellaneous metal parts. This operation includes a HVLP spray gun. The baking ovens are electric. A polyester filtration system is used for control of particulate matter. This emission point is located in Building 221, bay D.

Emission Point 3

Emission Point 3 is a paint booth used to prime and paint vans and shelters. The paint gun is an Electrostatic spray gun. A polyester filtration system is used for control of particulate matter. This emission point is located in Building 3, bay E.

Emission Point 4

Emission Point 4 is a three station paint booth. This painting operation is for the purpose of surface coating miscellaneous metal parts. A conventional air spray gun is included in this operation. This operation includes two electric bake ovens. A polyester filtration system is used for control of particulate matter. This emission point is located in Building 3, bay B.

Emission Point 5

Emission Point 5 consists of three blast cabinets. The blast media is sand. The control equipment is one cloth back with filter cabinet per blast cabinet. Waste paint and metal dust is generated by this process that contains HAPs and toxics. This emission point is located in Building 221, bay F and Building 3, bay C.

Emission Point 6

Emission Point 6 consists of two blasting and sanding booths. The blast media is plastic beads. The control equipment is a 2-stage filter cartridge system with the primary stage being cleaned by reverse pulse air and the secondary stage not cleaned. Waste paint and metal dust is generated by this process that contains HAPs and toxics. This emission point is located in Building 3, bay D.

EXISTING PAINT AND DEPAINT OPERATIONS (CONTINUED)

Emission Point 7

Emission Point 7 is a paint booth and two electric bake ovens. This painting operation is for the purpose of surface coating miscellaneous metal parts. A conventional air spray gun is included in this operation. A polyester filtration system is used for control of particulate matter. This emission point is located in Building 3, bay C.

Emission Point 8

Emission Point 8 is a paint booth for trucks, vans, miscellaneous metal parts, and large equipment. A conventional air spray gun is included in this operation. A fiberglass and polyester filtration system is used for control of particulate matter. This emission point is located in Building 221, bay F.

Insignificant Activities

Insignificant Activities for depaint operations include a sanding and blast booth located in Building 221, bay F. The blast media used in this booth is plastic bead. The control equipment is a 2-stage filtration system with the first stage cleaned by reverse air. The second stage is not cleaned. The filtering material is cellulose and polyester. Also included as an insignificant activity is three hand sanding units located in Building 3, bay D. Control equipment is a cloth bag filter.

COMMENTS:

Toxics modeling was performed on the Bluegrass Station Division facility using the ISCST3 modeling program. The emissions taken into account in the model originate from Existing Painting operations and the Helicopter Paint booth that will be in a PTE. Emissions from insignificant activities were not included in the model. The results of the toxics modeling indicate that Chromiun VI could be present at concentrations that exceed acceptable levels of risk based on the potential of the source to emit these toxics. Therefore, limits for the emission of Chromium VI will be required. Chromium VI emissions originate from painting operations. Daily records of the emission of Chromium VI from painting operations shall be kept as well as daily records of the hours of operation of painting operations.

APPLICABLE REGULATIONS:

401 KAR 63:060 - List of hazardous air pollutants, petition process, lesser quantity designations, and source category list.

401 KAR 63:020 – Potentially Hazardous Matter or Toxic Substances, applies to the potentially hazardous matter and toxic substance emissions from affected facilities.

401 KAR 59:010 - New Process Operations, applies to the particulate matter emissions from affected facilities constructed on or after July 2, 1975.

EMISSION AND OPERATING CAPS DESCRIPTION:

Bluegrass Station Divsion has requested voluntary permit limits of less than 90.0 tons per year of volatile organic compounds (VOC), 9.0 tons per year of individual hazardous air pollutant (HAP) and 22.5 tons per year of combined HAPs. The limit on chromium VI is six (6.0) pounds per year.

PERIODIC RECORDKEEPING:

The permittee shall maintain monthly records of the purchase and usage of the paints and solvents or

any VOC/HAP containing material. The permittee shall also maintain monthly records of the volume of natural gas burned. VOC/HAP emissions shall be calculated and recorded on a *monthly* basis. These records shall be summarized in tons per month VOC/HAP emissions; subsequently, tons of VOC/HAP emissions per rolling 12-month period shall be recorded. In addition, these records shall demonstrate compliance with VOC/HAP emission limitations listed herein for the conditional major limitations. These records, as well as purchase orders and invoices for all VOC/HAP containing materials, shall be maintained on site for a period of five years from the date the data was collected and shall be provided to the Division upon request.

The permittee shall maintain daily records of the purchase and usage of the paints containing Chromium VI. The permittee shall maintain daily records of the hours of operation for painting operations that utilize paints containing Chromium VI. Chromium VI emissions shall be calculated and recorded on a daily basis. The permittee will be allowed to calculate an hourly chromium VI emission rate based on these records. Chromium VI emissions shall also be calculated and recorded on a monthly basis. These records shall be summarized in pounds per month of chromium VI emissions; subsequently, pounds of chromium VI emissions per rolling 12-month period shall be recorded. These records, as well as purchase orders and invoices for all chromium VI containing materials shall be maintained on site for a period of five years from the date the data was collected and shall be provided to the Division upon request.

OPERATIONAL FLEXIBILITY: NA

CREDIBLE EVIDENCE:
This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.